Date: Sun, 28 Nov 93 15:41:41 PST
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>
Errors-To: Info-Hams-Errors@UCSD.Edu
Reply-To: Info-Hams@UCSD.Edu
Precedence: Bulk
Subject: Info-Hams Digest V93 #1398
To: Info-Hams

Info-Hams Digest Sun, 28 Nov 93 Volume 93 : Issue 1398

Today's Topics:

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 28 Nov 93 17:51:12 GMT
From: swrinde!cs.utexas.edu!asuvax!ncar!vexcel!copper!mercury.cair.du.edu!
awinterb@network.ucsd.edu
Subject: CONDO COMMUNICATOR #7
To: info-hams@ucsd.edu

```
                    IMMMMMMMMMMMMMMMMMMMMMMMMM;
                    :[210                 012[:
                    :[210Condo Communicator012[:
                    :[210                 012[:
                    HMMMMMMMMMMMMMMMMMMMMMMMMM<
```

Welcome to the seventh exciting, thrill-packed issue of Condo
Communicator, a newsletter devoted to those amateurs who, for
various reasons, must configure their stations to operate from
restrictive areas such as condos, apartments, townhouses,

neighborhoods with outdoor antenna restrictions, ships/boats, mobile homes, or wherever they fry their burgers and call QTH.

TABLE OF CONTENTS

It's been a while since issue #6. I've been pretty busy with work, not to mention getting a new QRP transmitter working (mostly) and just plain operating on the air. And, uh, my dog ate the issue I was writing. Y-e-a-h, *that's* what happened.

SOAPBOX

You would think that the challenge in operating from restricted space would be in the HF part of the spectrum. After all, the antennas are large and you have to run a lot of power to be heard, right? Evidently, not so.

From what we've seen in the first six issues of the newsletter, putting up an HF antenna in restricted space may involve some athletic ability, such as crawling around attics, but once there the antennas seem to radiate well enough. Even when running low power (under 50 watts) to minimize RF coupling into power lines or overpowering appliances, covert operators have been making themselves heard. Of course, these stories might have turned out differently if we hadn't been enjoying the benefits of the great solar cycle 22 as it peaked during 1990 through 1992.

As Lew McCoy, W1ICP, is fond of saying, just get as much wire as possible as high and clear as possible to radiate a signal. But as we cruise deeper into a stagnant Sargasso Sea of solar inactivity, we may find that our modest crafts no longer will do the job for us (talk about stretching for a metaphor...whew).

This is when covert ops either move someplace where they can erect larger antennas or they do as the radio pioneers did and relay their messages. Back then, they sent their messages in 30 to 100 mile hops by spark gap or CW. Nowadays, the covert operator can put up a tiny two-meter antenna and use an HT and a computer to connect to local, but well-equipped, packet gateways between the VHF and HF worlds. Some communities are lucky enough to have

satellite gateways, like N0NBH in Denver, CO, where hams can use low-end packet stations to communicate with satellite bulletin board stations.

I think the most technical challenge facing the apartment or condo dweller isn't HF or even VHF communications: it's UHF. That 30-meter loop strung around the bedroom ceiling will radiate through plaster and wood. But wet shingles will seriously attenuate 70 cm or shorter wavelengths if you're shooting for a satellite. Besides, unwieldy, high-gain UHF antennas are much more difficult to install and operate in cramped quarters than a length of wire tacked up on walls. A typical OSCAR array looks like an anti-aircraft battery as it is rotated and tilted to track its targets: who has an attic big enough for that?

So, we condo dwellers could rely on two meters for our connections to better equipped stations, which can then in turn allow us to connect to other stations. Or, perhaps we will use the microwave spectrum, connecting to better equipped stations with small dishes that can be mounted temporarily on the outside of our buildings or on portable masts we can quickly set up in other locations.

Hopefully, people who do operate the UHF spectrum from portable or restricted quarters will contribute notes this coming year to the newsletter, as well as folks who have discovered various gateways in their communities. During the coming years, as the ionosphere becomes a poorer reflector of signals, it will be interesting to see what ingenious strategies covert operators come up with.

STATION DESCRIPTION

Only one station desription this issue.

Doug Heacock, AA0MS, of Lawrence, KS:

> Until recently, I lived in a townhouse and couldn't put up a "real" antenna. I started with a random wire, strung from my basement operating position, up the basement stairs and around the corner and diagonally across my living room ceiling. I tuned it with an MFJ 949 tuner, and did okay with it for a while.
>
> Later I ran coax from the basement through a couple of closets (where the holes in the floors/celings would be

hidden) and connected it to a 40-meter dipole wrapped around the ceiling perimeter of a second-floor bedroom. This worked quite well for me for a long time. I seldom ran more than 50 watts from my Drake TR3, and usually it was more like 10-35 watts. Never had any problems with RFI, though I mostly operated very late at night.

BIBLIOGRAPHY

Cleary, Jack, WN2Q. "Another Attic Antenna," The QRP Quarterly, July 1993, pp. 21-22

Jack describes an attic-mounted delta loop for low-angle radiation, one of the eight loops described by Doug DeMaw in

his W1FB's Antenna Notebook. Jack's loop is calculated for 14.060 Mhz with the loop formula: Length = 1005/F (Mhz). Jack had a real adventure installing the antenna in the attic of his small, one-story bungalow, including a surprise descent into a closet, much to the consternation of his XYL. Fun to read and great info.

Belrose, Jack, VE2CV. "An Update on Compact Transmitting Loops," QST, November 1993, pp. 37-40.

A great article that sums up the theoretical underpinnings of small transmitting loops and which also compares the performance of different types of loops. Some of the commercially available loops mentioned are the AMA series (a German brand: Abstimmbare Magnetische Antennen), the AEA Isoloop, and the MFJ Super High-Q. Loops, while not comparing favorably with dipoles on 75 and 40 meters, do compare well with mobile whips, for example. Generally, the larger the diameter of the loop and the diameter of the loop conductor, as well as the greater its height above ground, the better the low-angle radiation pattern given a horizontal orientation. How about from the balcony of a 20-story building? The article doesn't say.

Okay folks, let's hear from you! Send your notes, ideas, station description, war stories, and so on to me at my packet address or:

Internet: awinterb@du.edu
US Snail: Art Winterbauer
10047 E. Mexico Ave.

Denver, CO 80231

Also, listen for snippets of this newsletter on Hap Holly's (KC9RP) Radio Amateur Information Network (RAIN), heard on various nets or by direct dialup (708-299-INFO, no charge except for long-distance costs).

73,72. Art.

N0OQS @ W0GVT.#NECO.CO.USA

--
Art Winterbauer N0OQS
Internet: awinterb@du.edu OR awinterb@diana.cair.du.edu
Packet: n0oqs @ w0ljf.#neco.co.usa

Date: Sat, 27 Nov 1993 14:12:39 -0700
From: swrinde!cs.utexas.edu!math.ohio-state.edu!news.cyberstore.ca!nntp.cs.ubc.ca!unixg.ubc.ca!kakwa.ucs.ualberta.ca!alberta!adec23!ve6mgs!usenet@network.ucsd.edu
Subject: ARLP047 Propagation de KT7H
To: info-hams@ucsd.edu

SB PROP @ ARL $ARLP047
ARLP047 Propagation de KT7H
ZCZC AP09 QST de W1AW Propagation Forecast Bulletin 47
ARLP047 From Tad Cook, KT7H Seattle, WA November 24, 1993
To all radio amateurs

The bulletin this week is being sent two days early
because of the holiday. The solar numbers and averages
below are for six days. Next week's bulletin will give
those numbers for eight days.

Solar flux was up about five points over the past week.
The most disturbed day was Friday, November 19 at 0600z
when the K index was six. Otherwise, geomagnetic indices
have been stable, and solar activity has been low.

Conditions should be stable for the CQ Worldwide CW DX
Contest this weekend, and solar flux should be under 100.

Disturbed conditions may return after the first of the
month due to recurring coronal holes.

Sunspot Numbers from November 18 through 23 were 56, 59,
58, 78, 75 and 69, with a mean of 65.8. 10.7 cm flux was
102.6, 101.1, 100.5, 97, 99.3, and 100.4, with a mean of
100.2

The path projection for this week is from Chicago to
Greece.

80 meters should be open from 1930z to 0730z, with the
best time from 2200z to 0530z. 40 meters looks good from
1700z to 1000z, with the best shot from 2130z to 0600z.
30 meters should be open most days from 0530z to 0730z,
and every day from 1330z to 2300z. 20 meters looks good
from 1400z to 1730z. 17 meters should be open from 1500z
to 1630z. 15 meters may be open on a few days over the
same period. 10 and 12 meters do not look promising over
this path.
NNNN
/EX

Date: Thu, 25 Nov 1993 23:28:35 MST
From: munnari.oz.au!spool.mu.edu!uwm.edu!math.ohio-state.edu!news.cyberstore.ca!
nntp.cs.ubc.ca!alberta!ugc!nebulus!ve6mgs!usenet@network.ucsd.edu
Subject: Daily Summary of Solar Geophysical Activity for 25 November
To: info-hams@ucsd.edu

/\

DAILY SUMMARY OF SOLAR GEOPHYSICAL ACTIVITY

25 NOVEMBER, 1993

/\

(Based In-Part On SESC Observational Data)

SOLAR AND GEOPHYSICAL ACTIVITY INDICES FOR 25 NOVEMBER, 1993

```
!!BEGIN!! (1.0) S.T.D. Solar Geophysical Data Broadcast for DAY 329, 11/25/93
10.7 FLUX=097.2  90-AVG=094        SSN=061      BKI=1111 1112  BAI=003
BGND-XRAY=B1.9     FLU1=2.1E+06  FLU10=1.5E+04  PKI=2110 2223  PAI=006
  BOU-DEV=008,008,006,006,005,008,007,016   DEV-AVG=008 NT     SWF=00:000
 XRAY-MAX= C5.7   @ 0622UT    XRAY-MIN= B1.5   @ 2223UT   XRAY-AVG= B4.8
NEUTN-MAX= +002%  @ 1205UT   NEUTN-MIN= -002%  @ 2100UT  NEUTN-AVG= -0.1%
  PCA-MAX= +0.2DB @ 1335UT     PCA-MIN= -0.4DB @ 1400UT    PCA-AVG= +0.1DB
BOUTF-MAX=55366NT @ 1457UT   BOUTF-MIN=55347NT @ 1926UT  BOUTF-AVG=55358NT
GOES7-MAX=P:+000NT@ 0000UT   GOES7-MIN=N:+000NT@ 0000UT  G7-AVG=+085,+000,+000
GOES6-MAX=P:+154NT@ 1711UT   GOES6-MIN=N:-054NT@ 1001UT  G6-AVG=+106,+016,-027
 FLUXFCST=STD:090,088,088;SESC:090,088,088 BAI/PAI-FCST=005,005,007/010,010,010
    KFCST=2233 3222 2233 3222  27DAY-AP=010,005   27DAY-KP=3322 3222 2121 2122
 WARNINGS=*SWF
   ALERTS=**245STRM:0224-1501UTC
!!END-DATA!!
```

NOTE: The Effective Sunspot Number for 24 NOV 93 was 42.0.
      The Full Kp Indices for 24 NOV 93 are: 2- 2- 1- 1o   2- 1+ 2- 1o

SYNOPSIS OF ACTIVITY

Solar activity was low with many C-class flares observed. The largest was a C5 at 25/0621Z that was optically uncorrelated. The likely source was Region 7620 (N05W25) that produced six other small C-class flares. Region 7620 ceased the growth exhibited on 24 Nov. Some mixed polarities remained in the center of the Region. The coronal hole that caused the geomagnetic storm on 04-07 Nov is again visible in the eastern hemisphere. It is as large as last rotation and similar in shape.

Solar activity forecast: solar activity should continue at a generally low level. An isolated low M-class flare from Region 7620 is possible.

The geomagnetic field remained quiet.

Geophysical activity forecast: the geomagnetic field should be quiet to slightly unsettled for the duration of the forecast period.

Event probabilities 26 nov-28 nov

Class M	20/20/20
Class X	01/01/01
Proton	01/01/01
PCAF	Green

Geomagnetic activity probabilities 26 nov-28 nov

A. Middle Latitudes	
Active	15/15/15
Minor Storm	01/01/01
Major-Severe Storm	01/01/01

B. High Latitudes	
Active	20/20/20
Minor Storm	01/01/01
Major-Severe Storm	01/01/01

HF propagation conditions continued normal over all regions. No changes are anticipated over the next 72 hours. The coronal hole-related disturbance noted above is not expected until about 01 or 02 December (with emphasis presently placed on 02 December).

COPIES OF JOINT USAF/NOAA SESC SOLAR GEOPHYSICAL REPORTS

REGIONS WITH SUNSPOTS. LOCATIONS VALID AT 25/2400Z NOVEMBER

NMBR	LOCATION	LO	AREA	Z	LL	NN	MAG TYPE
7620	N05W26	267	0230	ESI	12	033	BETA
7622	N13E21	220	0040	CSO	06	008	BETA
7621	S09W17	258					PLAGE

REGIONS DUE TO RETURN 26 NOVEMBER TO 28 NOVEMBER

NMBR	LAT	LO
NONE		

LISTING OF SOLAR ENERGETIC EVENTS FOR 25 NOVEMBER, 1993

BEGIN MAX END RGN   LOC   XRAY OP 245MHZ 10CM   SWEEP
NONE

POSSIBLE CORONAL MASS EJECTION EVENTS FOR 25 NOVEMBER, 1993

 BEGIN   MAX   END   LOCATION   TYPE   SIZE DUR II IV
     NO EVENTS OBSERVED

INFERRED CORONAL HOLES. LOCATIONS VALID AT 25/2400Z

               ISOLATED HOLES AND POLAR EXTENSIONS
      EAST   SOUTH WEST   NORTH CAR TYPE POL AREA   OBSN
49   N35W63 N20W73 N22W83 N38W73 319 ISO   POS   005 10830A
51   N60E87 S12E49 N10E32 N60E87 189 EXT   POS   057 10830A

SUMMARY OF FLARE EVENTS FOR THE PREVIOUS UTC DAY

 Date   Begin Max   End Xray Op Region Locn   2695 MHz 8800 MHz 15.4 GHz
------ ---- ---- ---- ---- -- ------ ------ --------- --------- ---------
24 Nov: 0105 0112 0121 B3.9
        0443 0457 0505 B4.0
        0600 0606 0610 B7.8
        0626 0633 0649 B5.7 SF 7620 N04W02
       B0747 U0753 A0809   SF 7620 N05W01
        0940 0948 1001 B5.6
        1156 1201 1205 B9.0
        1313 1319 1321 B6.4
        1341 1407 1433 C1.2 SF 7622 N12E36
        1644 1648 1652 B4.9
        1848 1854 1859 C1.0 SF 7618 N06W82
        2005 2009 2013 B5.6
        2050 2053 2100   SF 7622 N13E34
        2203 2222 2232 C1.4 SF 7620 N04W11
        2259 2301 2303 B7.3
        2339 2343 2346 B8.4 SF 7620 N04W11
        2357 0000 0005   SF 7620 N04W11

REGION FLARE STATISTICS FOR THE PREVIOUS UTC DAY

                C   M   X   S   1   2   3   4   Total   (%)
               -- -- --   -- -- -- -- --   --- ------
  Region 7618: 1   0   0   1   0   0   0   0   001 (5.9)

```
  Region 7620:  1   0   0     5   0   0   0   0    005  (29.4)
  Region 7622:  1   0   0     2   0   0   0   0    002  (11.8)
Uncorrellated: 0   0   0     0   0   0   0   0    009  (52.9)

 Total Events: 017 optical and x-ray.


EVENTS WITH SWEEPS AND/OR OPTICAL PHENOMENA FOR THE LAST UTC DAY
---------------------------------------------------------------

 Date   Begin  Max   End  Xray  Op Region  Locn    Sweeps/Optical Observations
------  ----  ----  ----  ----  -- ------ ------   ---------------------------
24 Nov: 0105  0112  0121  B3.9                     III

NOTES:
     All times are in Universal Time (UT).  Characters preceding begin, max,
     and end times are defined as:  B = Before,  U = Uncertain,  A = After.
     All times associated with x-ray flares (ex. flares which produce
     associated x-ray bursts) refer to the begin, max, and end times of the
     x-rays.  Flares which are not associated with x-ray signatures use the
     optical observations to determine the begin, max, and end times.

     Acronyms used to identify sweeps and optical phenomena include:

          II        = Type II Sweep Frequency Event
          III       = Type III Sweep
          IV        = Type IV Sweep
          V         = Type V Sweep
          Continuum = Continuum Radio Event
          Loop      = Loop Prominence System,
          Spray     = Limb Spray,
          Surge     = Bright Limb Surge,
          EPL       = Eruptive Prominence on the Limb.


**  End of Daily Report  **

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Date: 28 Nov 1993 12:01:04 -0500
From: swrinde!sdd.hp.com!nigel.msen.com!caen!destroyer!news1.oakland.edu!w8hd!
w8hd!not-for-mail@network.ucsd.edu
Subject: Heliax for sale!
To: info-hams@ucsd.edu

For sale:

A *great deal* of Andrew Heliax (tm) and Cablewave Flexwell (virtually
```

identical) cable.

I have 1/2", 7/8", 1-1/4", 1-5/8", 3" and 5" available. Connectors (new and used) available as well.

Numerous short (30-50') lengths, plenty of longer lengths as well.

Cable is mostly new, typically end tails. Used sections available.

If your'e interested, e-mail with your requested size, length, and condition (new, used, etc) and I will quote you a price. Shipped via UPS from southeastern Michigan.

--
kenh@w8hd.org
Ken Hoehn - Teletech, Inc. Compuserve: 70007,2374
N8NYO P.O.Box 924 FAX: (313) 562-8612
  Dearborn, MI 48121 VOICE: (313) 562-6873

Date: Sun, 28 Nov 1993 20:13:54 GMT
From: swrinde!cs.utexas.edu!howland.reston.ans.net!usenet.ins.cwru.edu!nshore!fmsystm.telemax.com!andrews@network.ucsd.edu
Subject: Mars Info wanted
To: info-hams@ucsd.edu

In article <pschleck.754504454@cwis> elmers-request@unomaha.edu writes:
>In <754312613.AA02822@tdkt.kksys.com> Robert.Edward@f100.n282.z1.tdkt.kksys.com (Robert Edward) writes:
>>I'm looking for information about joining any of the MARS programs. Can
>>anyone help me with the addresses of contact people?
>>
>>Thanks,
>>Bobby Edward WB5MJK
>>
>> * Origin: HAM>link< RBBS 612/HAM-0000 Saint Paul, MN [K0TG] (1:282/100)
>
>The Amateur Radio Elmers Resource Directory (published here once a
>month) is an excellent list of contacts for many facets of amateur radio
>(including MARS). There are at least a half-dozen MARS Elmers on the
>list. In case the list has expires at your site, send E-mail to
>elmers-request@unomaha.edu, or finger pschleck@unomaha.edu.
>
(Hearing my cue to enter... hi hi)

If your interested in Army MARS, e-mail me. If your interested in Air Force or Navy MARS, e-mail me and I will send you a list of those members which I have compiled. Try to decide, then let me know.

So long for now...

--
Tell Me Something I Don't Know, ! HAM = N8OFS
Show Me Something I Can Use, ! ARMY MARS = AAN5HJT
Push The Buttons, ! CB = THE NEON KNIGHT
Connect The God-Damn Dots!!! - Ministry ! HACKER = TH3 N30N KN16Ht

---

Date: Sun, 28 Nov 1993 20:10:43 GMT
From: swrinde!sgiblab!spool.mu.edu!bloom-beacon.mit.edu!noc.near.net!lynx!chaos.dac!wy1z@network.ucsd.edu
Subject: Talk America Radio Network
To: info-hams@ucsd.edu

I would like to compile a listing of broadcast stations across the country which carry the Talk America Radio Network.

This network carries the following shows (that I know of):

Computer Exchange, 1700 - 1900 UTC (12pm - 2pm EST)

Modem Mania, 1900 - 2000 UTC (2pm - 3pm EST)

A Ham Radio Talkshow (I forget the name), 2300 - 2400 UTC (6pm - 7pm EST)

The local affiliate of Talk America in the Greater Boston area is:
1510 AM, WSSH

I'll post a summary if I receive enough responses.

Speaking of WSSH, has anyone in the Boston area had any intermittent reception problems during any of the above mentioned shows (like their transmitter loses power for a period of time), or is it just me?

Thanks much!

73,
Scott

--
==========
| Scott Ehrlich Internet: wy1z@neu.edu |

Amateur Radio: wy1z AX.25: wy1z@n0ary.#nocal.ca.usa.na
Maintainer of the Boston Amateur Radio Club hamradio FTP area on the World - world.std.com /pub/hamradio

==========

Date: 26 Nov 1993 02:10:19 GMT
From: ucsnews!sol.ctr.columbia.edu!howland.reston.ans.net!vixen.cso.uiuc.edu!ux4.cso.uiuc.edu!ahall@network.ucsd.edu
Subject: The Year's closing- End of Cellular recept???
To: info-hams@ucsd.edu

Hello everyon,

I was wondering if I better get my hands on some rigs that
are capable of the extended recieve before they are banned
for sale in the US. (does this include the W2A, the 530,
and the other ham radios???) I really wanted to know because
I have my eyes on the 530 and its nice little lapel mic,
and I was wondering if it won't be availiable when the
new cellular stuff happens (seeing as how these are relatively
easily modable).

Any ideas/comments??
73
Allen Hall n9rzc@uiuc.edu

Date: Fri, 26 Nov 1993 02:01:45 GMT
From: usenet.coe.montana.edu!grapevine.lcs.mit.edu!lynx!chaos.dac!wy1z@decwrl.dec.com
Subject: World and BARC reminder
To: info-hams@ucsd.edu

First, a reminder to all who have FTP capability that the ARRL's infoserver
files are FTPable on world.std.com in /pub/hamradio/arrl/Server-files.

On another note, the World (world.std.com) now has Gopher capability, so you
can also view any of the ARRL documents via Gopher (gopher world.std.com).
At the same time, feel free to browse the other areas, too, under pub/hamradio.

For anyone who has any ham radio related files to offer, please feel free
to place them into /pub/hamradio/Incoming and please don't forget to also
send me e-mail letting me know that you have placed something there, along
with a brief description of what the file does, and where you think it

should be placed (even if it is obvious).

The FTP area is made available by Software Tool and Die, which runs
and supports the World public access Internet system. The Boston Amateur
Radio Club, Boston, MA, supports the /pub/hamradio section.

Please feel free, too, to send any comments regarding the Boston Amateur Radio
Club's FTP area to me.

73 to all,
Scott

--

==
| Scott Ehrlich   Internet: wy1z@neu.edu |
Amateur Radio: wy1z   AX.25: wy1z@n0ary.#nocal.ca.usa.na
Maintainer of the Boston Amateur Radio Club hamradio FTP area on
the World - world.std.com /pub/hamradio
==

Date: Sun, 28 Nov 1993 21:12:19 GMT
From: swrinde!cs.utexas.edu!utnut!torn!nott!cunews!freenet.carleton.ca!
Freenet.carleton.ca!aj467@network.ucsd.edu
To: info-hams@ucsd.edu

References <CH61HE.BF7@news.Hawaii.Edu>, <1993Nov23.194146.9573@es.dupont.com>,
<1993Nov24.00
Reply-To : aj467@Freenet.carleton.ca (Bill Macpherson)
Subject : Re: Miss Manners in the Novice Sub-bands? G's silliness.

In a previous article, collinst@esvx19.es.dupont.com (Thomas Collins WI3P) says:

>In article <CH68H2.1zy@freenet.carleton.ca>, aj467@Freenet.carleton.ca (Bill
Macpherson) writes:
>>
>>Since language inherently includes Spelling, and Grammar.
>   ^^^^^^^^^^^^^^^^^^^^
> Do we therfore just throw out all the cultures
> who never have had a written language? I don't
> think so.

No, but let's let those who speak morse, speak morse, of course, of course.
And the name of that Horse of course of course, is the wonderful Mr ED.

--
Bill VE3NJW   Advanced Amateur
Packet Address : VE3NJW@VE3KYT.#EON.ON.CAN
Freenet Address: aj467@Freenet.Carleton.ca

End of Info-Hams Digest V93 #1398
****
****